

Water and Sewer Authority of Cabarrus County  
Proposed Capital Improvement Program  
Expansion Capital Projects Only  
FY 23-24 and Nine Planning Years



# Capital Improvement Program Expansion Capital Projects Only FY 23-24 and Nine Planning Years

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\* Rocky River Regional Wastewater Treatment Plant



**Water and Sewer Authority of Cabarrus County**  
**Capital Improvement Program FY 23-24 and Nine Planning Years (expressed in million dollars )**

**Expansion Capital Projects Only**

Proj ID #	Project	Description	Project Total	Total By Funding Source	Project to Date In Progress	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32	FY 32-33
1a	RRRWWTW Phase 3 (30 MGD) CW	Charlotte Water's share of expansion 30 MGD	(2)	\$ 103.200	\$ 38.970	\$ 20.750	\$ 18.220								
1b	RRRWWTW Phase 3 (30 MGD) WSACC	WSACC's share of expansion 30 MGD	(2)	\$ 64.230	\$ 34.200	\$ 30.030									
2a	RRRWWTW Phase 4 (34 MGD) CW	Charlotte Water's share of expansion 34 MGD		\$ 143.216	\$ 54.096	\$ 1.740	\$ 13.089	\$ 13.089	\$ 13.089	\$ 13.089					
2b	RRRWWTW Phase 4 (34 MGD) WSACC	WSACC's share of expansion 34 MGD		\$ 89.120	\$ 2.860	\$ 21.565	\$ 21.565	\$ 21.565	\$ 21.565						
3	RRRWWTW Phase 5 Permitting & Planning	Request DEQ discharge permit above 34 MGD		\$ 3.625	\$ 3.625	\$ 3.625									
4a	Lower Coddle Creek Parallel Interceptor	28,500 ft. of 36 & 48 inch gravity sewer	(1)	\$ 44.758	\$ 2.633	\$ 2.633									
4b	Lower Coddle Creek Parallel Interceptor	28,500 ft. of 36 & 48 inch gravity sewer	(1)	\$ 42.125		\$ 21.062	\$ 21.063								
5	Wolf Meadow Branch Parallel Interceptor	8,200 ft. of 30-inch gravity sewer		\$ 9.830	\$ 9.830	\$ 4.915	\$ 4.915								
6	Mt. Pleasant Pump Stations 1&2 Force Main	23,700 ft. of 12-inch force main		\$ 8.530	\$ 8.530			\$ 8.530							
7	Back Creek Parallel Interceptor	7,900 ft. of 30-inch gravity sewer		\$ 9.510	\$ 9.510				\$ 9.510						
8	Afton Run Parallel Interceptor	9,900 ft of 24-inch & 1,400 ft of 18-inch gravity		\$ 11.120	\$ 11.120					\$ 11.120					
9a	Muddy Creek Expansion Design	Design of the expansion to 1.0 MGD		\$ 28.175	\$ 3.675	\$ 0.50	\$ 3.175								
9b	Muddy Creek Expansion to 1.0 MGD	Construction of Expansion to 1.0 MGD		\$ 24.500					\$ 12.250	\$ 12.250					
10a	RRRWWTW Phase 5 Design (40 MGD)	Design of the expansion to 40 MGD		\$ 231.000	\$ 21.000					\$ 10.500	\$ 10.500				
10b	RRRWWTW Phase 5 Construction (40 MGD)	Construction of expansion to 40 MGD		\$ 210.000								\$ 70.000	\$ 70.000	\$ 70.000	
11	Highland Creek Parallel Interceptor	2,300 ft. of 24-inch gravity sewer		\$ 2.170	\$ 2.170							\$ 2.170			
12	Lower Rocky River PS Parallel Force Main	25,600 ft. of 36-inch force main		\$ 27.600	\$ 27.600							\$ 3.000	\$ 12.300	\$ 12.300	
13	Cold Water Creek Parallel Interceptor	2,000 ft. of 34-inch gravity sewer		\$ 1.920	\$ 1.920								\$ 1.920		
14	Crozier Branch Parallel Interceptor	5,400 ft. of 18-inch gravity sewer		\$ 3.870	\$ 3.870									\$ 3.870	
15a	Back Creek Interceptor Extension CW	Extension to county line 12,800 ft. of 30-inch	(3)	\$ 15.310	\$ 12.710										\$ 12.710
15b	Back Creek Interceptor Extension WSACC	Extension to county line 12,800 ft. of 30-inch	(3)	\$ 2.600	\$ 2.600										\$ 2.600
				Total by Year	\$ 62.183	\$ 113.006	\$ 63.807	\$ 43.184	\$ 56.414	\$ 33.870	\$ 10.500	\$ 75.170	\$ 84.220	\$ 86.170	\$ 15.310

updated 3/8/23

CW=Charlotte Water

(1) ARP monies of \$42.125 million to be applied to this project.

(2) RRRWWTP Expansion to be funded approx. by Charlotte Water 30% & WSACC 70%.

RRRWWTW Expansion 30 MGD began in calendar year 2022

RRRWWTW Expansion 34 MGD currently estimated to begin in calendar year 2024

(3) Back Creek project to be funded by Charlotte Water 83% & WSACC 17%.

Funding sources for projects are for planning purposes only. Actual funding sources for the projects are subject to change based on circumstances and availability.

**Proposed Funding Sources**

System Development Fees SDF	\$ 20.423
Charlotte Water Funded	\$ 105.776
WSACC Reserve Funds	\$ 3.625
Proposed Debt Financed WSACC	\$ 471.885
Combination ARP, SDF, and/or Debt	\$ 42.125
<b>Total</b>	<b>\$ 643.834</b>

**Warning: Each project is subject to final approval by the Board. Inclusion in the plan does not guarantee construction of project.**

## FISCAL YEAR 2023 - 2024

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 1

**PROJECT NAME:** Rocky River Regional WWTP Expansion to 30 MGD (Phase 3)

**DESCRIPTION OF PROJECT:** This project consists of the progressive design-build effort for expansion of the Rocky River Regional WWTP to 30 MGD (Phase 3). Phase 3 work also includes upgrades and replacement of medium voltage duct banks and associated equipment at the Rocky River Regional WWTP.

**JUSTIFICATION:** Influent flow to the Rocky River Regional WWTP is increasing, along with continued flow acceptance requests and additional flow anticipated from Charlotte Water. Completing the expansion will lead to additional capacity at the RRRWWTP in response to increasing flows.

**PROJECT STATUS:** Construction began for this effort in Spring 2022. The preliminary estimated cost for this work is \$103,200,000 in 2022 dollars.





## FISCAL YEARS 2023 - 2027

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 2

**PROJECT NAME:** Rocky River Regional WWTP Expansion to 34 MGD (Phase 4)

**DESCRIPTION OF PROJECT:** This project consists of the continuation of the progressive design-build effort for expansion of the Rocky River Regional WWTP from 30 MGD to 34 MGD (Phase 4).

**JUSTIFICATION:** Influent flow to the Rocky River Regional WWTP is increasing, along with continued flow acceptance requests and additional flow anticipated from Charlotte Water. Completing the expansion will lead to additional capacity at the RRRWWTP in response to increasing flows.

**PROJECT STATUS:** The progressive design-build effort is under way, with construction for Phase 3 improvements currently in progress. Construction for Phase 4 improvements is currently anticipated to begin in FY 2024. The preliminary estimated cost for this work is \$146,427,988 in 2023 dollars.



## FISCAL YEAR 2023-2024

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 3

#### PROJECT NAME: Phase 5 RRRWWTP Permitting and Planning (WSACC Master Plan)

**DESCRIPTION OF PROJECT:** This project consists of a full Master Plan update for WSACC, including negotiating new permit limits at the RRRWWTP for expansion beyond 34 MGD. This involves comprehensive review of previous information and master plan updates, development of an updated list of Capital Improvement Projects, new modeling of the Rocky River as requested by NC DEQ, and studies and associated discussions with NC DEQ to establish the permitting requirements for further expansion.

**JUSTIFICATION:** Significant growth is anticipated to continue in Cabarrus County and surrounding areas. Influent flow to the Rocky River Regional WWTP is expected to continue to increase, with continued flow acceptance requests and additional flow anticipated from member jurisdictions in Cabarrus County and Charlotte Water. Developing an updated list of Capital Improvement projects helps to inform associated planning and tracking efforts moving forward, and completing the NPDES permit negotiation process for the RRRWWTP will allow WSACC to be ready to continue design for further expansion when needed.

**PROJECT STATUS:** This effort is currently under way. Remaining capital expenditures for this project are currently programmed into FY 2023-2024. The preliminary overall estimated cost for this work is \$3,625,000 in 2022 dollars.





## FISCAL YEAR 2023 - 2024

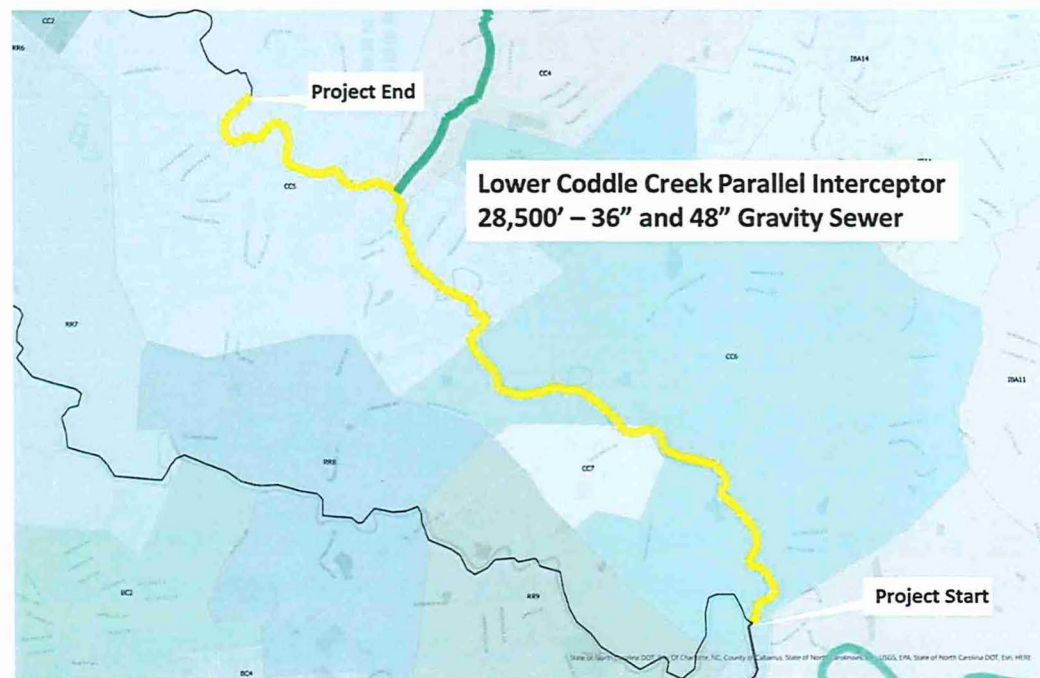
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 4

#### PROJECT NAME: Lower Coddle Creek Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of approximately 28,500 linear feet of 36-inch and 48-inch gravity sewer parallel to the lower portion of the existing 30-inch Coddle Creek Interceptor in the Coddle Creek Basin. The project begins at the confluence of Coddle Creek and Rocky River where the existing Coddle Creek Interceptor combines with the Rocky River Interceptor just upstream of the Lower Rocky River Pumping Station. The end of the project is located where the existing interceptor enlarges to a 36-inch interceptor.

**JUSTIFICATION:** This project will provide additional wastewater conveyance capacity to the Coddle Creek Basin to meet projected growth within the basin.

**PROJECT STATUS:** Easement acquisition is in progress for this project. The Planning Level Cost Estimate for this work is \$44,758,000 in 2022 dollars.



## FISCAL YEARS 2024 - 2025

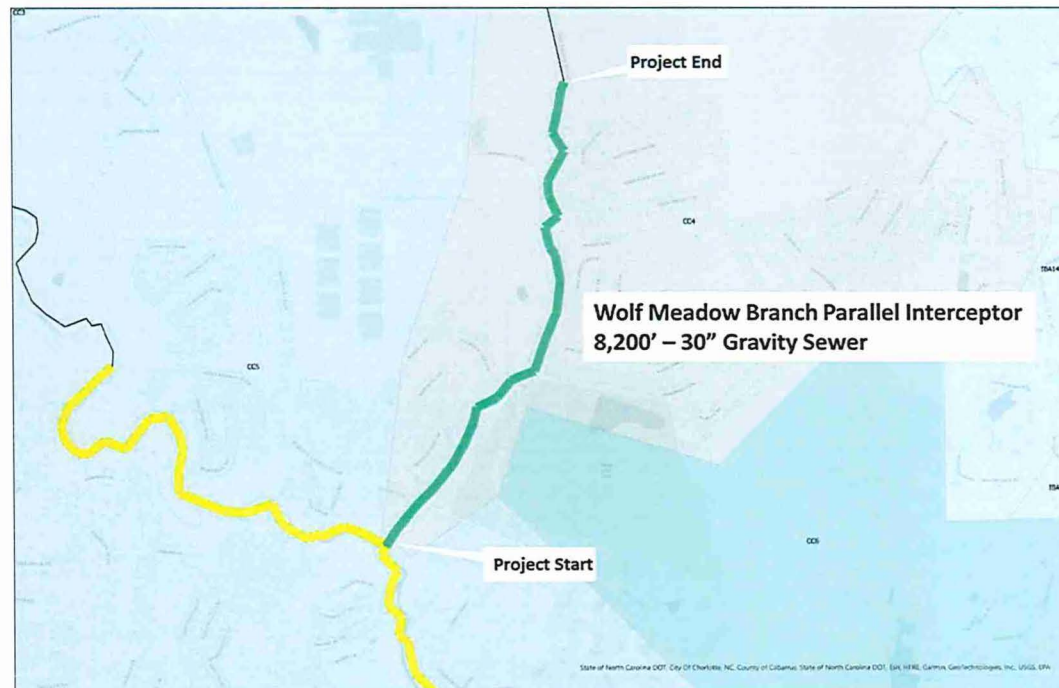
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 5

#### PROJECT NAME: Wolf Meadow Branch Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of 8,200 linear feet of 30-inch gravity sewer to serve additional major users expected in the Wolf Meadow Branch Basin. The project begins at the confluence of the Wolf Meadow Branch and Coddle Creek Interceptors, and extends upstream along Wolf Meadow Branch to the end of the existing Wolf Meadow Branch line (Concord Parkway crossing).

**JUSTIFICATION:** This project will provide additional conveyance capacity to the Wolf Meadow Branch Basin in anticipation of additional major users (commercial and industrial development) within this basin.

**PROJECT STATUS:** Preliminary estimated costs for this project are programmed in FY 2024 – 2025. The Planning Level Cost Estimate for this work is \$9,830,000 in 2023 dollars.





## FISCAL YEAR 2026

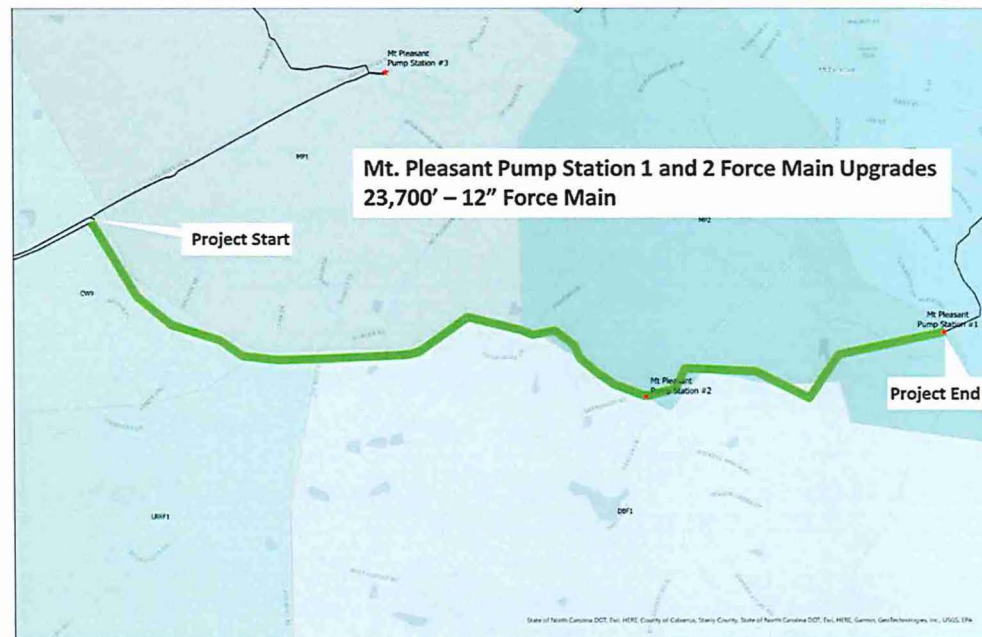
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 6

#### PROJECT NAME: Mt. Pleasant Pump Station 1 and 2 Force Main Upgrades

**DESCRIPTION OF PROJECT:** This project consists of 23,700 linear feet of 12-inch force main for additional capacity from the two upstream WSACC pump stations. The project begins at the confluence of the existing 8-inch and 12-inch force mains, and extends upstream to WSACC's Mt. Pleasant Pump Station #1, replacing the existing 8-inch force mains.

**JUSTIFICATION:** This project will provide additional conveyance capacity to the Dutch Buffalo Creek Basin to account for wet weather flow and anticipated additional connections in the future.

**PROJECT STATUS:** Preliminary estimated costs for this project are programmed in FY 2026. The Planning Level Cost Estimate for this work is \$8,530,000 in 2023 dollars.



## FISCAL YEAR 2027

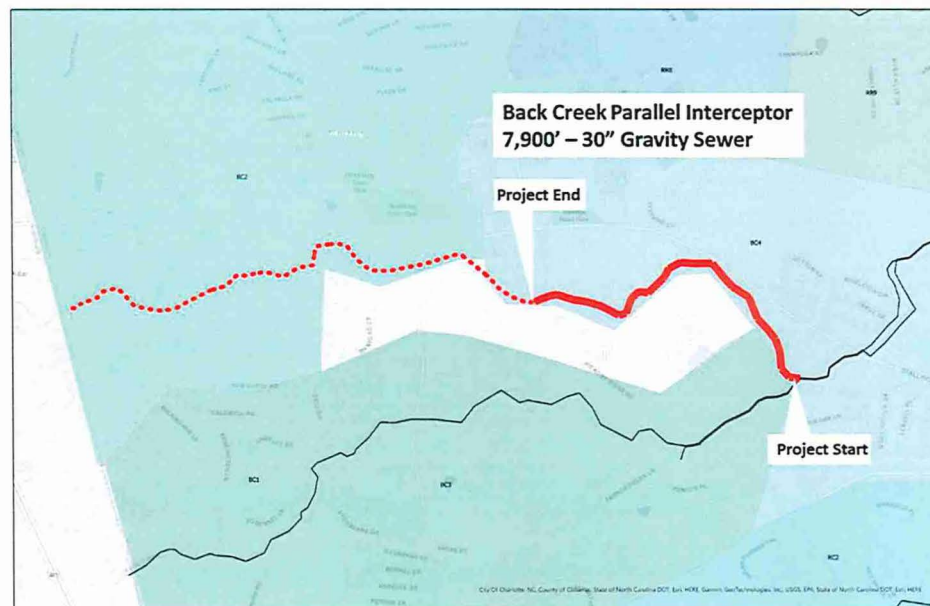
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 7

#### PROJECT NAME: Back Creek Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of 7,900 linear feet of 30-inch gravity sewer to serve the Back Creek Basin. The project begins at the existing Back Creek Parallel Interceptor at the confluence of Back Creek and Fuda Creek, and extends west along Back Creek.

**JUSTIFICATION:** This project will provide additional conveyance capacity to the Back Creek Basin within Cabarrus County, and will upgrade this section of the interceptor with additional capacity to serve Charlotte Water projects to meet future projected wastewater flow. See Project 1b for additional information.

**PROJECT STATUS:** WSACC and Charlotte Water have worked together on design and easement acquisition for this project. Development within Cabarrus and Mecklenburg County are the triggers for this project. The Planning Level Cost Estimate for this work is \$9,510,000 in 2023 dollars.





## FISCAL YEAR 2028

### PROJECT CHARACTERISTICS – CIP PROJECT NOS. 8

#### PROJECT NAME: Afton Run 24-inch Interceptor, 18-inch Interceptor, and I-85 Crossing

**DESCRIPTION OF PROJECT:** Project 7 consists of 9,500 linear feet of 24-inch sanitary sewer, Project 7b consists of 1,400 linear feet of 18-inch sanitary sewer, and Project 7c consists of 400 linear feet of 24-inch sanitary sewer in the Afton Run Basin. Considered together, these projects begin near the confluence of Afton Run and Coddle Creek, and extend upstream to Highway 73.

**JUSTIFICATION:** These projects will provide additional wastewater conveyance capacity to the Afton Run Basin to meet projected growth and impacts from projected storm events.

**PROJECT STATUS:** Preliminary estimated costs are programmed into FY 2028. The Planning Level Cost Estimate for Project 7 is \$9,110,000, the Planning Level Cost Estimate for Project 7b is \$1,010,000, and the Planning Level Cost Estimate for Project 7c is \$1,000,000. All planning level cost estimates are presented in 2023 dollars.



## **FISCAL YEARS 2024-2025**

### **PROJECT CHARACTERISTICS – CIP PROJECT NO. 9 a**

**PROJECT NAME:** Muddy Creek WWTP Expansion Design to 1.0 MGD

**DESCRIPTION OF PROJECT:** This project consists of the planning and design effort for expansion of the Muddy Creek WWTP to 1.0 MGD.

**JUSTIFICATION:** Influent flow to the Muddy Creek WWTP is increasing, along with continued interest in development in the Midland portion of the service area. Completing the design for the expansion will allow WSACC to be ready to begin the expansion when needed.

**PROJECT STATUS:** Capital expenditures for this project are currently programmed into FY 2024-2025. The preliminary estimated cost for this work is \$3,675,000 in 2023 dollars.





## **FISCAL YEARS 2027 - 2028**

### **PROJECT CHARACTERISTICS – CIP PROJECT NO. 9 b**

**PROJECT NAME:** Muddy Creek WWTP Expansion to 1.0 MGD

**DESCRIPTION OF PROJECT:** This project consists of the construction effort for expansion of the Muddy Creek WWTP to 1.0 MGD.

**JUSTIFICATION:** Influent flow to the Muddy Creek WWTP is increasing, along with continued interest in development in the Midland portion of the service area. Completing the expansion will result in expanded capacity at the Muddy Creek WWTP.

**PROJECT STATUS:** Capital expenditures for this project are currently programmed into FY 2027-2028. The preliminary estimated cost for this work is \$24,500,000 in 2023 dollars.



## FISCAL YEARS 2028-2029

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 10 a

**PROJECT NAME:** Rocky River Regional WWTP Expansion Design to 40 MGD (Phase 5)

**DESCRIPTION OF PROJECT:** This project consists of the planning and design effort for expansion of the Rocky River Regional WWTP to 40 MGD (Phase 5).

**JUSTIFICATION:** Influent flow to the Rocky River Regional WWTP is increasing, along with continued flow acceptance requests and additional flow anticipated from Charlotte Water. Completing the design for the expansion will allow WSACC to be ready to begin the expansion when needed for additional capacity at the RRRWWTP (beyond 34 MGD provided with Phase 4) in response to anticipated continued increases in flows.

**PROJECT STATUS:** Capital expenditures for this project are currently programmed into FY 2028-2029. The preliminary estimated cost for this work is \$21,000,000 in 2023 dollars.





## FISCAL YEARS 2030-2032

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 10 b

**PROJECT NAME:** Rocky River Regional WWTP Expansion to 40 MGD (Phase 5)

**DESCRIPTION OF PROJECT:** This project consists of the construction effort for expansion of the Rocky River Regional WWTP to 40 MGD (Phase 5).

**JUSTIFICATION:** Influent flow to the Rocky River Regional WWTP is increasing, along with continued flow acceptance requests and additional flow anticipated from Charlotte Water. Completing the expansion will provide additional capacity at the RRRWWTP (beyond 34 MGD provided with Phase 4) in response to anticipated continued increases in flows.

**PROJECT STATUS:** Capital expenditures for this project are currently programmed into FY 2030-2032. The preliminary estimated cost for this work is \$210,000,000 in 2023 dollars.



## FISCAL YEAR 2030

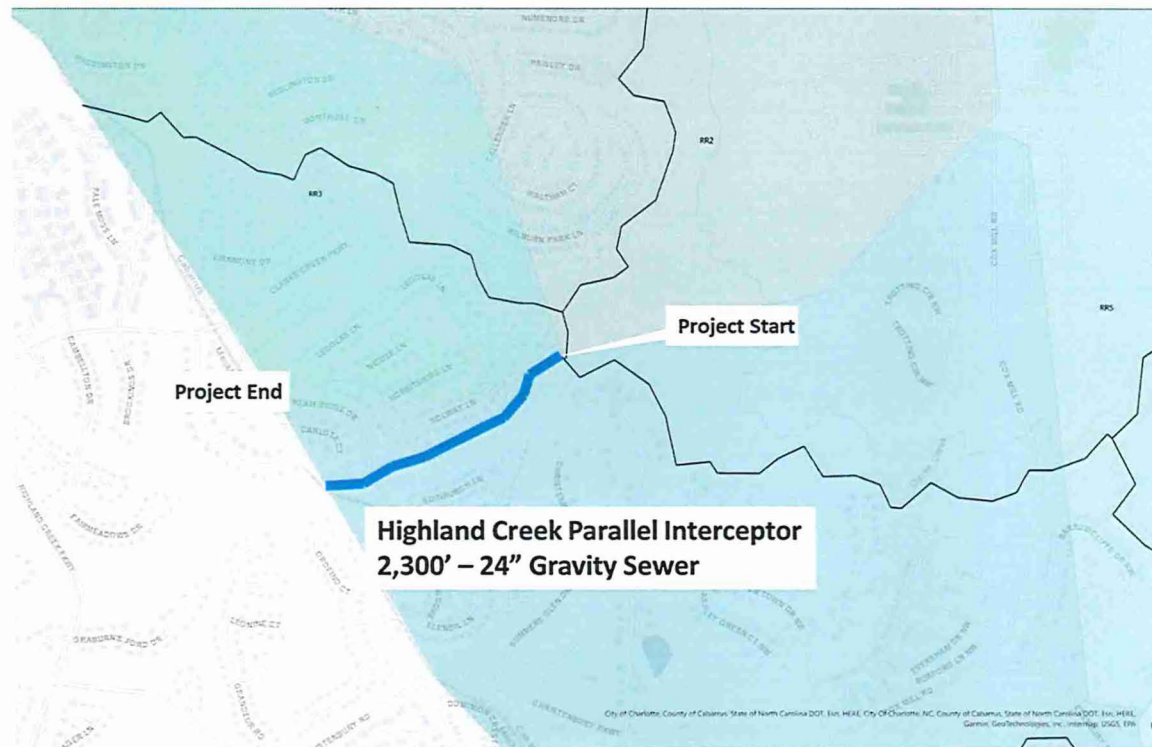
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 11

#### PROJECT NAME: Highland Creek Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of approximately 2,300 linear feet of 24-inch gravity sewer in the Highland Creek Basin. The project begins at the confluence of Highland Creek and Clarke Creek, and extends upstream to the Mecklenburg County line.

**JUSTIFICATION:** This project will provide additional wastewater conveyance capacity to the Highland Creek Basin to meet projected growth within the affected portion of the Charlotte Water service area.

**PROJECT STATUS:** Preliminary estimated costs are programmed into FY 2030. The Planning Level Cost Estimate for this work is \$2,170,000 in 2023 dollars.





## FISCAL YEARS 2030 - 2032

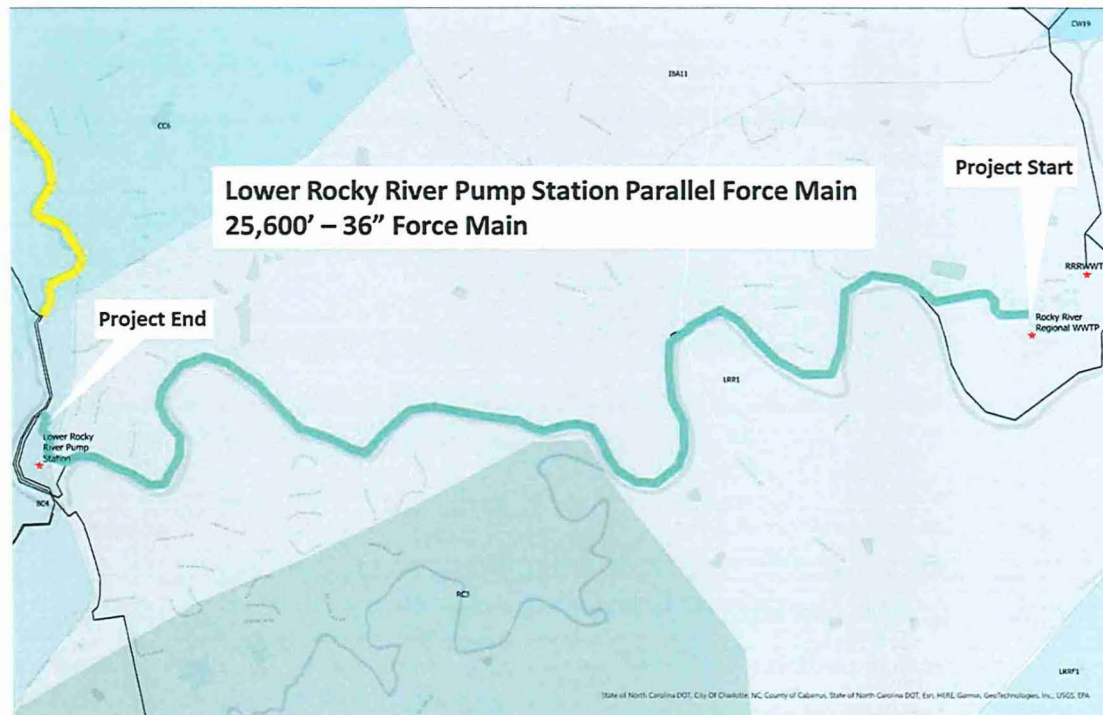
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 12

#### PROJECT NAME: Lower Rocky River Pump Station Parallel Force Main

**DESCRIPTION OF PROJECT:** This project consists of 25,600 linear feet of 36-inch parallel force main. This project begins at the Rocky River Regional WWTP and extends upstream to the Lower Rocky River Pump Station.

**JUSTIFICATION:** Combined with the capacity in the existing 48-inch force main, this project will provide additional wastewater conveyance capacity to areas served by the Lower Rocky River Pump Station (western Cabarrus County, Charlotte Water) to meet projected growth.

**PROJECT STATUS:** Preliminary estimated costs are programmed into FY 2030 - 2032. The Planning Level Cost Estimate for this work is \$27,600,000 in 2023 dollars.



## FISCAL YEAR 2031

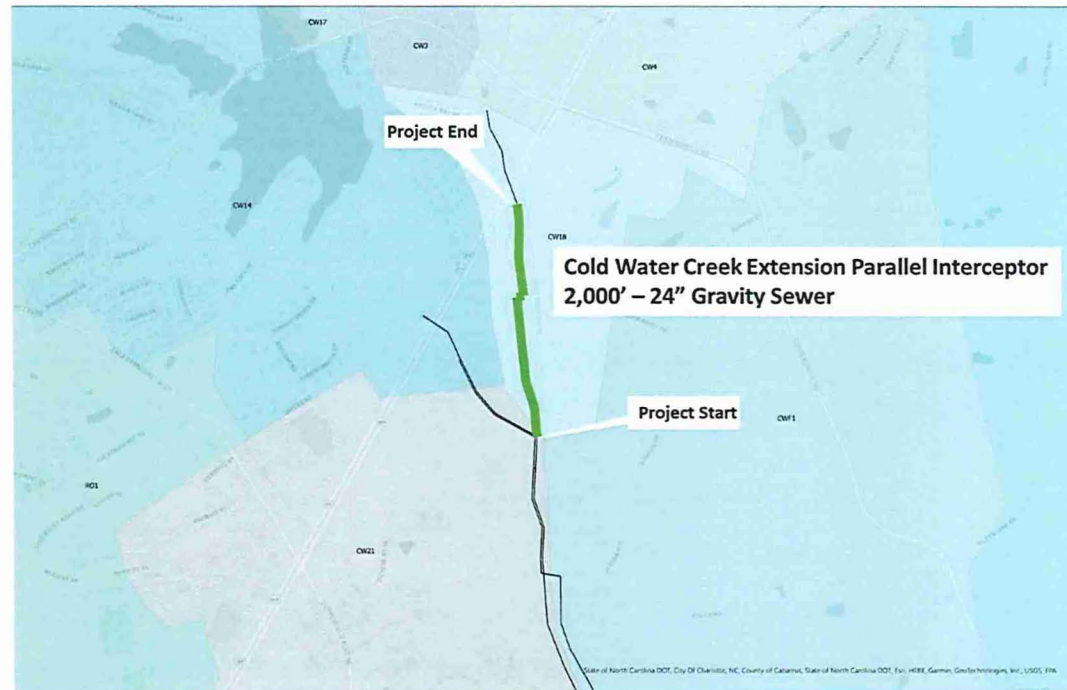
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 13

#### PROJECT NAME: Cold Water Creek Extension Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of 2,000 linear feet of 24-inch sanitary sewer. This project begins near the confluence of Cold Water Creek Interceptor and Cold Water Creek Interceptor Extension, and extend upstream towards I-85.

**JUSTIFICATION:** This project will provide additional wastewater conveyance capacity to the Cold Water Creek Basin to meet projected growth and impacts from projected storm events.

**PROJECT STATUS:** Preliminary estimated costs are programmed into FY 2031. The Planning Level Cost Estimate for this work is \$1,920,000 in 2023 dollars.



## FISCAL YEAR 2032

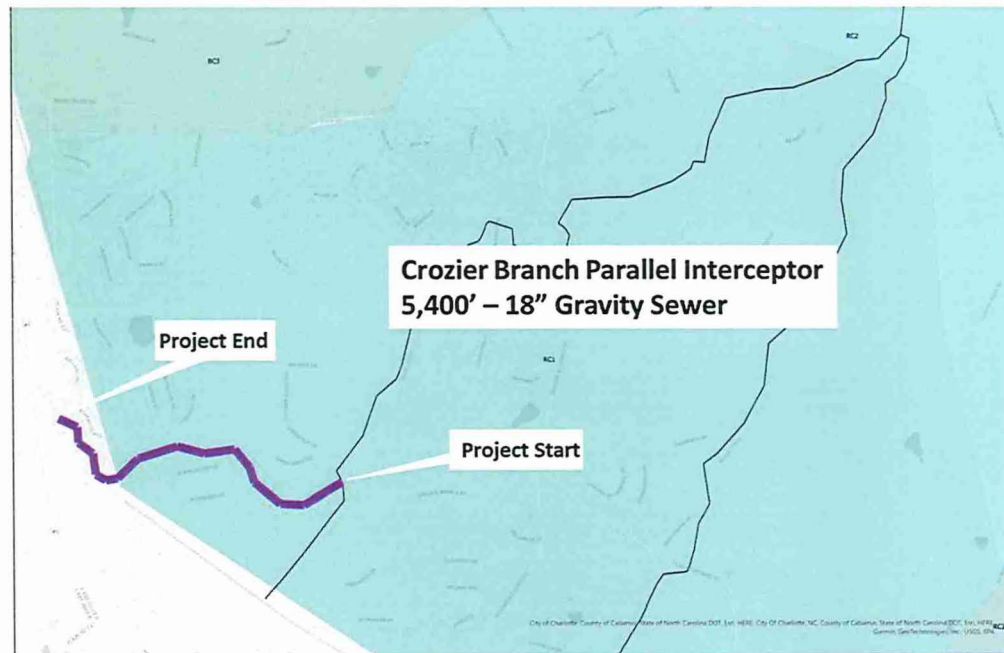
### PROJECT CHARACTERISTICS – CIP PROJECT NO. 14

**PROJECT NAME:** Crozier Branch Parallel Interceptor

**DESCRIPTION OF PROJECT:** This project consists of approximately 5,400 linear feet of 18-inch gravity sewer in the Crozier Branch Basin. The project begins at the confluence of Crozier Branch and Reedy Creek, and extends upstream to the Mecklenburg County line.

**JUSTIFICATION:** This project will provide additional wastewater conveyance capacity to the Crozier Branch Basin to meet projected growth within the affected portion of the Charlotte Water service area.

**PROJECT STATUS:** Preliminary estimated costs are programmed into FY 2032. The Planning Level Cost Estimate for this work is \$3,870,000 in 2023 dollars.





## FISCAL YEAR 2033

### PROJECT CHARACTERISTICS – CIP PROJECT NO. 15

#### PROJECT NAME: Back Creek Interceptor Extension

**DESCRIPTION OF PROJECT:** This project consists of 12,800 linear feet of 30-inch gravity sewer to serve the Back Creek Basin. The project begins at the end of Project 1 and extends west along Back Creek to the Mecklenburg County line.

**JUSTIFICATION:** This project will provide additional conveyance capacity to the Back Creek Basin within Cabarrus County and Charlotte Water. This project is driven by anticipated future flow from Charlotte Water.

**PROJECT STATUS:** WSACC and Charlotte Water have worked together on design and easement acquisition for this project. Development within Mecklenburg County is the trigger for this project. The Planning Level Cost Estimate for this work is \$15,310,000 in 2023 dollars.

